

A NEW SUBSPECIES OF TRICHOPHTHALMA
FROM WESTERN AUSTRALIA

(Diptera, Nemestrinidæ)

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Although the Australasian region is unusually rich in Nemestrinidæ—forty-one distinct forms being reported by Mackerras in 1925—only six species were known thus far for western Australia, viz., *Trichophthalma costalis* subsp. *apicalis* Mackerras, *T. fulva* Walker, *T. ruficosta* Mackerras, *T. leucophæa* Walker, *T. longirostris* Mackerras, and *T. grisea* Mackerras. All these came from the southwest division and mostly from the districts about King George's Sound and Perth. Obviously, as Mackerras points out, the scantiness of records from that part of the Continent is merely due to insufficient collecting.

During their brief stay in southwestern Australia, from September to November, 1931, the Harvard Australian Expedition obtained six specimens of Nemestrinidæ, representing two species of *Trichophthalma*. Of *T. costalis* subsp. *apicalis* Mackerras, two males were taken at Bridgetown (33° 56' S.; 116° 8' E.) on November 9, 1931, by Dr. W. M. Wheeler. These insects were visiting flowers of a small species of *Xanthorrhæa*, growing along roadsides in farmland country. The race differs conspicuously, in the male at any rate, from typical *T. costalis* Westwood, of eastern Australia, in the peculiar coloration of the wing, the apical third being clear white, sharply contrasting with the smoky remainder. It is of interest that Professor Wheeler collected, in the same locality and the same day, two specimens of a bombyliid which in size and coloration of body and wing exactly mimics this nemestrinid.

The other *Trichophthalma* appears to be undescribed, although it is evidently the western representative of *T. bivittata* Westwood. Notwithstanding certain slight structural differences, it seems more rational to give it subspecific, rather than specific rank, since it can hardly be doubted that the eastern *bivittata* and the new western form sprang from some common ancestor.

***Trichophthalma bivittata wheeleri* Bequaert, n. subsp.**

Holotype and paratype female, and allotype and paratype male from Mullewa (28° 29' S.; 115° 26' E.), in the sand-plain region of southwestern Australia, September 14 and 18, 1931, at flowers (possibly of *Leptospermum*) (W. M. Wheeler). According to Dr. Wheeler, Mr. L. J. Newman of Perth collected additional specimens in the same locality.

A large, thick-set fly, superficially resembling *T. bivittata* Westwood, being grayish white, with a broad black median stripe over thorax and abdomen, partial black lateral stripes on the thorax, and broad black side margins on the abdomen; white stripes of abdomen more regular than in typical *bivittata* and with more woolly, somewhat matted white hairs; underside of body white.

Female. Integument of body black. Antennæ, palpi, labrum of proboscis and legs clove brown; hind tibiæ and tarsi slightly infuscate; pulvilli bright reddish yellow, with black tips.

Body moderately pilose above, very densely covered with longer hairs on the ventral side. Vertex with erect black hairs as far down as the anterior ocellus; remainder of head (including the beard) with white pile, with an admixture of black or gray hairs, especially on the upper half of the frons and on the middle of the face. Eyes densely covered with almost russet pile, except in the lower third where the hairs are sparser and white. Dorsum of thorax with moderately long and rather sparse, erect, grayish pile, mixed with black; the hairs along the sides of the dorsum and on the hind margin of the scutellum considerably longer and denser, grayish white, mixed with black ones apicad of the wings; pleura and pectus densely covered with long, grayish white pile. Abdomen with erect, black hairs on the black areas; the two broad white bands, however, covered with much longer, grayish white hairs, which are woolly and somewhat matted down; venter with long, white, appressed hairs. Femora with long, white pile; tibiæ and tarsi with very short, sparse, somewhat russet hairs. The integument is entirely covered with dull pruinosity, which is almost everywhere ashy gray, except on the conspicuous longitudinal black bands of the dorsum of thorax and abdomen. On the thorax a nearly uniform, moderately wide, black band runs over the middle of the dorsum from the anterior margin to the hind margin of the scutellum; in its anterior half it is flanked on each side by a slightly narrower, curved, black stripe, which begins at the shoulder, is broadly interrupted before the transverse suture, and stops before the base of the wing; there is also an indication of a dull black area in the extreme hind corner, close to the sides of the scutellum. On the abdomen, the median black stripe continues that of the thorax, but is nearly twice as wide, narrower posteriorly; on most segments it is fairly parallel-sided, but on the third tergite it is much narrower at the anterior margin; the

lateral black stripe on each side follows closely the side margin, being about as wide as the median stripe, and its line of demarcation from the white submedian stripe is fairly straight; the median and the two lateral black stripes unite along the hind margin of the fifth tergite, the following tergites as well as the ovipositor being dull black.

Head large, slightly flattened, as broad as the thorax, semi-elliptical in profile; kidney-shaped seen in front, the height about four-fifths of the width. Frons flat, moderately wide; inner orbits converging upward from the insertion of the antennæ (where the frons measures slightly over one-half of the width of the eye at that level) to halfway up the frons; its upper part and the vertex with subparallel sides and slightly less than half as wide as at the antennæ; sides of face strongly divergent downward. Ocellar protuberance elongate and low, scarcely set off, with a faint median depression; ocelli placed in an isosceles triangle, the posterior ocelli less than half as far apart as from the anterior ocellus. Antennæ moderately long, placed on the sides of the face, close to the lower orbits; basal segment slightly broader than long, truncate at apex; second very short and wide; third flattened, awl-shaped, with a deep but narrow constriction close to the base, apparently setting off a narrow ring or collar-like supernumerary segment; its basal third with subparallel sides, then rather rapidly narrowed to a blunt point which continues into the three-jointed style; style slightly shorter than the antennæ, the basal two divisions long, though together shorter than the third, the first division shorter than the second. Face moderately swollen, its sides separated from the inner orbits by deep but narrow grooves; its upper median portion forming a wedge in the frons above the antennal pits. Proboscis of medium length, directed downward; measured along the labrum it is slightly less than the height of the head; labella large and thick. Palpi short, of normal thickness, protruding but little from the pilosity of the face; the second segment small, not swollen and without noticeable apical pit. Body very broad and thickset, somewhat flattened dorso-ventrally. Thorax distinctly broader than thick; the dorsum about as wide as long; the transverse suture marked on the sides only over about one-fourth of the width of the dorsum. Scutellum large, semi-elliptical, cushion-shaped; the swollen hind margin slightly set off by a depressed line. Abdomen broad and flat. Valves of ovipositor flattened and leaf-like; the lower edge strongly convex. Legs moderately long and stout; hind tibiæ and tarsi slightly thicker than those of fore and mid legs.

Wings slightly shorter than the body, over three times as long as wide, practically hyaline throughout; the veins dark clove brown. Venation of the typical *Trichophthalma* type, showing only minor differences from that of *T. bivittata* or *T. rosea*; these differences being due only to individual variation and therefore not of specific value. As in the two species mentioned, the apical portion of the

upper branch of the fifth longitudinal vein ($M_3 + 4$) is not in line with the remainder of the diagonal vein, but placed considerably more basad.

Length, not including ovipositor (to apex of tergite 5), 16.5 mm.; greatest width of abdomen, 7 to 7.5 mm.; length of labrum of proboscis, 4 mm.; length of wing, 16 mm.; width of wing, 4 to 4.3 mm.

Male. In most respects similar to the female. Eyes with longer pile, holoptic in the upper half of the frons; inner orbits touching each other over about half the distance between the anterior ocellus and the antennal pits (over more than twice the length of the upper, free part of the vertex).

Total length, 16.5 mm.; greatest width of abdomen, 5.5 mm.; length of labrum of proboscis, 4 mm.; length of wing, 15 mm.; width of wing, 4 mm.

This insect is evidently the western race of *T. bivittata* Westwood (= *T. eques* Schiner) of Queensland and New South Wales. I have compared it with two females of typical *bivittata* from Herberton, Queensland, and with one male of that form from National Park, New South Wales. In both sexes of typical *bivittata* the two white longitudinal bands of the abdomen have irregular, jagged outer margins and are covered with sparser, erect, grayish white pile; in the female the upper part of the frons and the vertex are distinctly narrower than in the subsp. *wheeleri* (about one-third of the width of the frons at the insertion of the antennæ); while in the male the inner orbits touch each other over a shorter distance (about equal to the length of the upper, free portion of the vertex).

Mr. F. W. Edwards, who very kindly examined for me Westwood's type at the British Museum, writes me that it is a female agreeing exactly in regard to the form of the abdominal white stripes and the abdominal hairs with specimens of eastern Australia received from Mackerras as *T. eques* Schiner. No definite locality was mentioned in the original description of *T. bivittata*, but since the type was given to Westwood by Shuckard, it came evidently from New South Wales, whence Shuckard about that time described several Hymenoptera.

It may be noted that the discovery of *T. bivittata wheeleri* at Mullewa extends the known distribution of the Nemestrinidæ considerably farther north in the western half of Australia.